CHARTS

Midterm Progress Report

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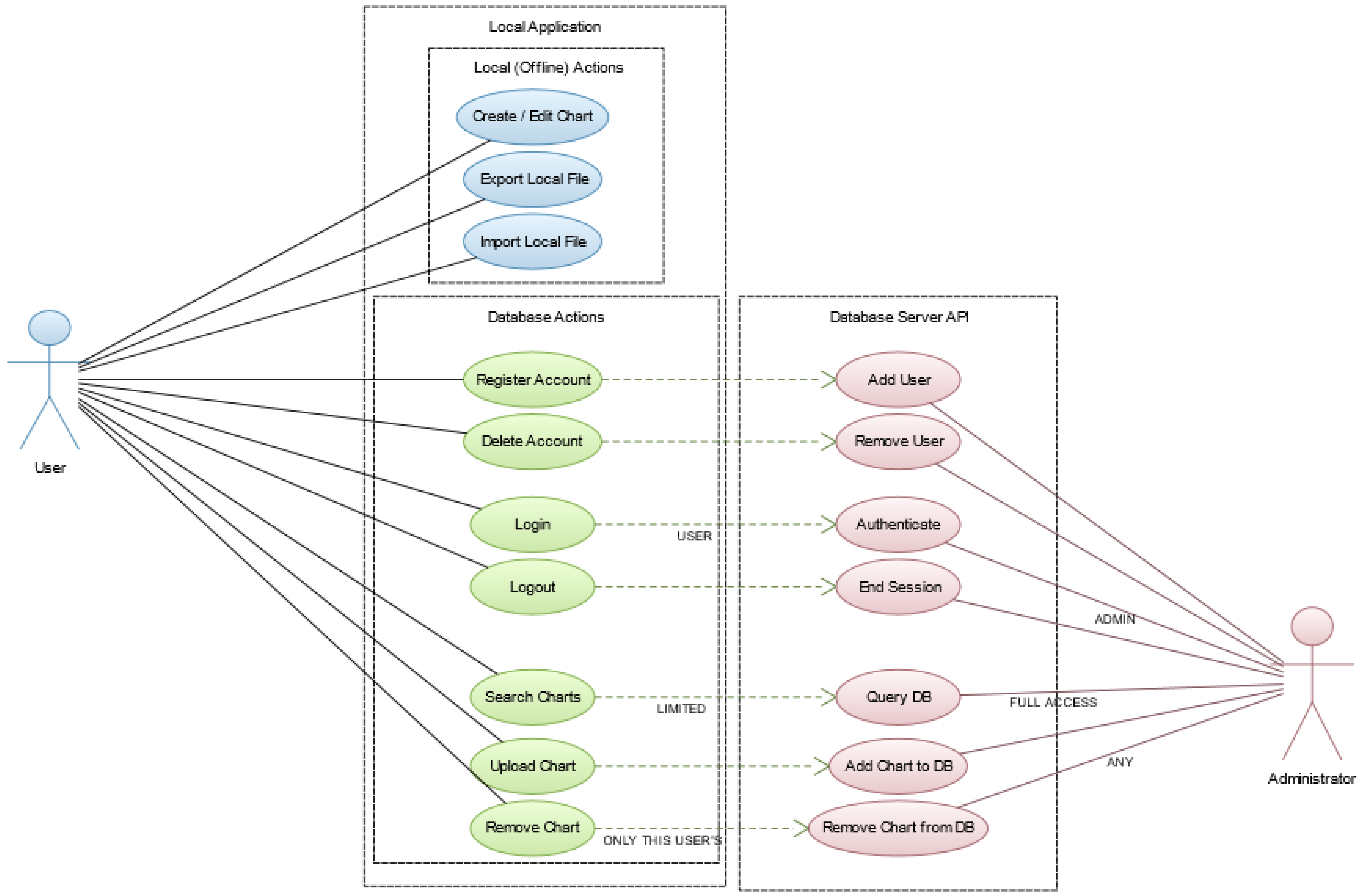
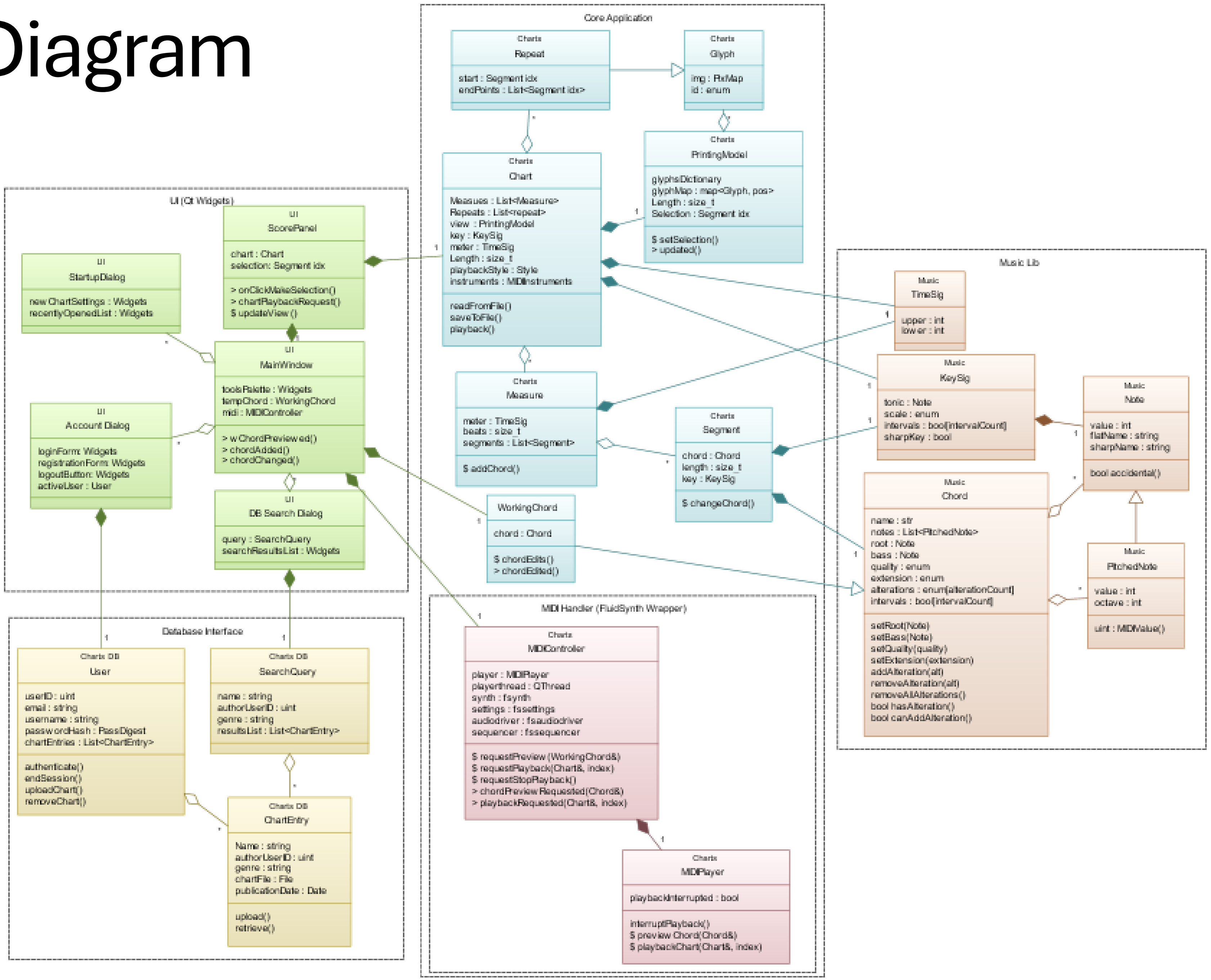
Introduction

- Desktop application for creating and sharing musical chord charts / backing tracks
  - *Small music library to handle notes, chords, etc.*
- Cross Platform Support
  - *Linux, Mac, Windows*
  - *Tools:*
    - Qt 6.7 (Qt Widgets UI, QApplication Framework)
    - FluidSynth 2 (MIDI sequencer & playback library)
    - C++17
- Online sharing feature w/ central DB

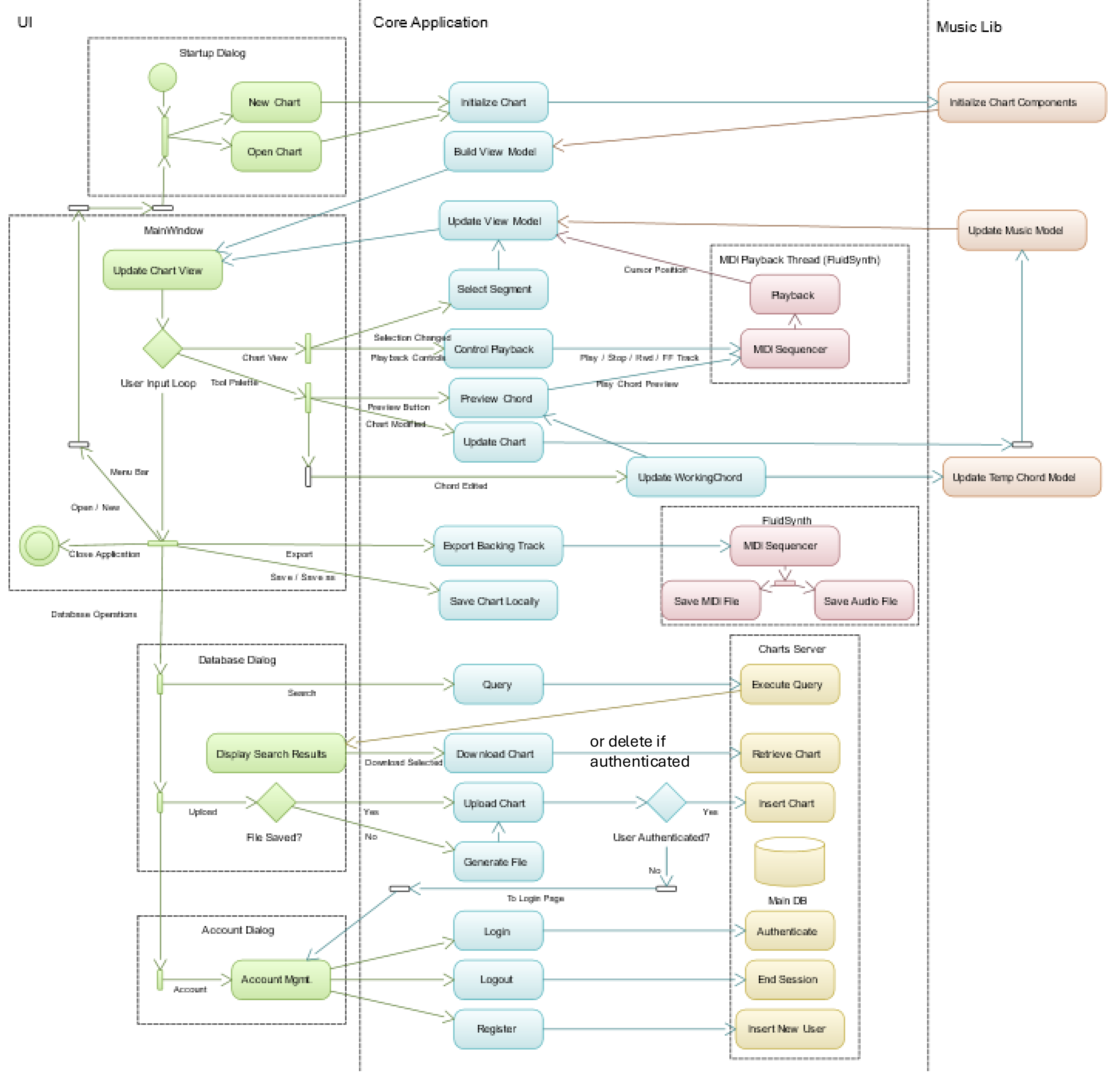
Use Case Diagram



Object Diagram



Activity Diagram



Completion Progress

- User Interface
  - *~75% - progress and changes will be made as application code is fleshed out and features can be integrated*
- Music Utils
  - *~99%? - everything modeled has been implemented; may need to add / change small things*
- Core App
  - *~50% - UI integration with chord builder & MIDI library complete (it makes sounds!)*
- Server / Database
  - *Planned…*

Process Model

- Looking more and more like waterfall every day…
- UI & Music Utils are almost done being implemented -> moving to testing stage
- Core Application in implementation stage

Timeline

- ~~Early October:~~
  - ~~*Finalize requirements*~~
  - ~~*UI design & front end implementation*~~
- ~~Late October:~~
  - ~~*Front-end refinements*~~
  - *Client-side back-end implementation*
- Early November:
  - *Finish client-side application*
  - *Client-side app testing*
  - *Server-side back-end implementation*
- Late November:
  - *Finish server-side*
  - *Integration testing*

Challenges

- Cross-Platform Development
  - *Everyone has different problems…*
    - Linking / general inconsistency
    - macOS SDK updates
    - MSVC / “DLL not found”

- Making the “right” choices
  - *Chord representation: interval set vs. pitch set vs. complete enumeration*

Risk Analysis

- Slow start, but making good progress
  - *Time spent in research phase is paying off*
  - *Should be fully functional by final presentation*

- Focusing on the big picture - Changes from initial plan:
  - *Web app build postponed*
    - Focus on the big 3 desktop platforms
  - *Tutorials may be minimal in the initial release*

- Implementation has been smooth so far